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Another new telonychopine genus from western Brazil (Polydesmida: Chelodesmidae)

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ABSTRACT

The new genus and species *Dioplosternus salvatrix* is described from a male collected at the headwaters of the Rio Guapore in western Mato Grosso, Brazil. The genus is related to the geographically proximate *Vanzolegulus* but is distinct from that and all other known chelodesmid genera in the extremely long paramedian processes of the 6th sternum. A revised key to the genera of Telonychopodini is provided.

As sequentially treated in my three papers cited below, this initially monobasic taxon has increased to four genera largely localized in the headwater regions of the Rio Paraguay, and now augmented by a fifth in the upper basin of the Rio Guaporé, The new genus and species are described at this time to make the names available for use in the context of environmental/conservation programs being conducted in the headwaters region of the Rio Guaporé in western Brazil with the support of Grupo Rede & Tangará Energia S.A. Millipeds collected under this initiative by Dr. Christine Strüssmann were forwarded to me by Prof. Dr. Joachim Adis; I am obligated to both of these colleagues for their involvement.

Family CHELODESMIDAE Cook

Tribe Telonychopodini Verhoeff

Telonychopidae Verhoeff, 1951, Zool. Anz., 146: 82.

Telonychopodini: Hoffman, 1965, Pap. Avuls. Zool., 17: 252; 2000, Myriapodologica 7: 1; 2002, Myriapodologica 7: 113.

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KEY TO GENERA OF TELONYCHOPODINI

1. Sternum of 6th segment of males with two paramedian processes, telopodite of gonopod without solenomere 2
– Sternum of 6th segment flat to slightly concave, without trace of paramedian processes; prostatic groove terminating on a discrete solenomere at distal end of telopodite 3

2. Processes of 6th sternum, slender, digitiform, longer than their basal width (Fig.3); sternum of segment 5 with rounded setose knobs only between anterior pair of legs; prostatic groove terminating between small subapical flanges (Fig. 4) . . . . . *Dioplosternus*
– Processes of 6th sternum scarcely longer than broad, apices turned caudolaterad; sternum of segment 5 with paramedian setose knobs between both pairs of legs; prostatic groove ending on a short lobe at about midlength of the telopodite. . . . . *Vanzolegulus*

3. Telopodite terminating in a solenomere and two additional processes; prostatic groove carried by a ridge along the femoral region, visible only in ventral aspect . . . . . *Manfrediodesmus*
– Telopodite terminating in a solenomere and at most one additional process; prostatic groove visible only in mesal aspect 4

4. Telopodite arcuately curved dorsad (mesal aspect!), solenomere sigmoidally curved, evenly continuing distal reduction of femoral region *Pantanalodesmus*
– Femoral region of telopodite essentially straight, apex abruptly set off as a short, broad, laminate solenomere . . . . . *Telonychopus*

Dioplosternus, new genus

NAME: A neologism formed from the Greek elements *di-* (two) + *hoplos* (armed) + *sternon*, in reference to the elongated paramedian sternal processes of the 6th segment.

DIAGNOSIS: Differing from all other known genera of Chelodesmidae by the elongate, divergent, processes of the 6th sternum in males. The gonopod is similar to that of *Vanzolegulus* but differs in that the prostatic groove extends to the apex of the telopodite, its termination marked by a slight separation and flaring of the edges of

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the groove. Differing also from *Vanzolegulus* by the presence of only one pair of paramedian sternal processes on segment 5, and by the occurrence of subcoxal sternal cones on postgonopodal segments.

COMMENTS: Although this taxon is manifestly related to *Vanzolegulus*, there are more than enough distinctive and singular structural traits in both gonopodal and peripheral characters to justify separation at the generic level.

RANGE: Known so far only from the type locality in the headwaters of the Rio Guaporé, in northwestern Mato Grosso, Brazil.

SPECIES: Only the type species is known.

Dioplosternus salvatrix, new species

Figures 1-7

NAME:A neologism derived from the Latin *salvatus* , with the intended meaning "she who saves" in reference to the collector of the type specimen, a participant in the program "Resgate de fauna" conducted prior to inundation of the region by a hydroelectric facility.

MATERIAL: Male holotype (MZUSP) from the Usina Hidroelectrica do Guaporé, Vale do São Domingo (15.07°, 32' S, 58.57 °,16'W), Edo. Mato Grosso, Brazil, 11-17 August 2002, Christine Strüssmann leg.

HOLOTYPE: Adult male, broken into several pieces, length ca. 56 mm, width of segments 2-8 ca. 8.6 mm, thereafter gradually narrower, 8.0 mm at segments 11-16 then abruptly narrower to 19th. L/W ratio ca. 15%.

Color of recently preserved specimen overall light brown with faint purplish cast, perhaps maroon in life, legs and antennae somewhat lighter, metaterga with yellow transverse band on posterior edge, widest and most conspicuous on anterior segments, caudolateral corners of paranota also yellowish.

Head without obvious modifications, most of facial setae abraded. Collum laterally acute, marginal groove not extending to outer angle. Surface of prozona coarsely microasperulate, composed of numerous minute, short, transversely oriented striae; surface of metazona smooth, superficially coriarious. Stricture broad and deep, anterior edge sharply defined ventrally, less so dorsally, without costulations. Paranota large, only slightly declivent, anterior corners rounded, posterior corners obtusely angular back to segment 4, thereafter broadly rounded on poreless segments, variously modified by location of peritreme on poriferous Peritremata suboviform at midbody, pore opening laterally near posterior end (Fig. 1); in going posteriad the

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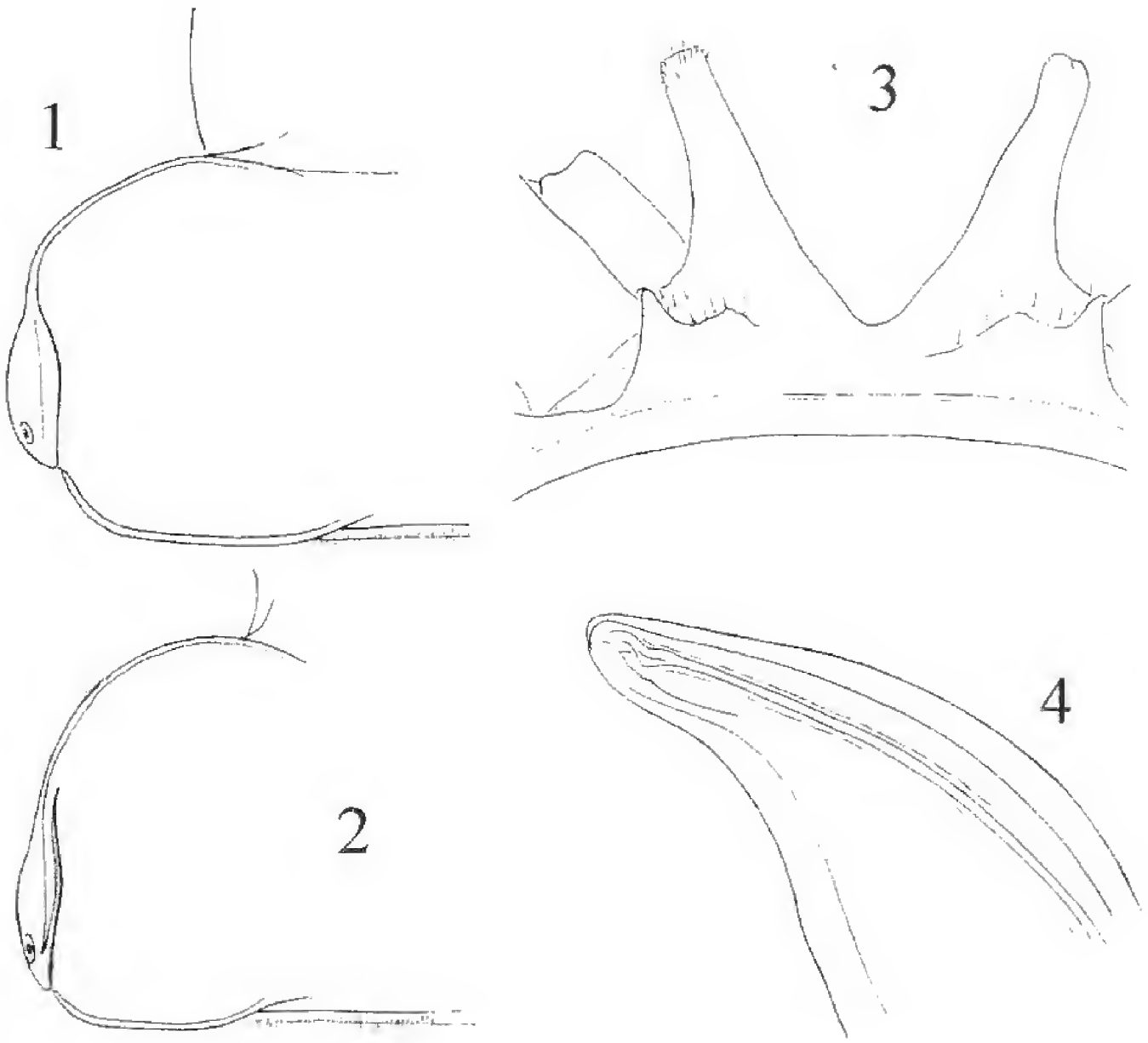
shape becomes more slender (Fig. 2) and provided with a fine but evident groove along its dorsal side, not occurring in other chelodesmids known to me. Metaterga with evident transverse groove, posterior edge with a single row of about 20 minute tubercles. Limbus broad, with conspicuous fringe composed of setiform processes arising from about its midwidth. Distal half of epiproct slightly declivent; hypoproct triangular, with a broad, shallow transverse groove near midlength.

Legs attached to strongly elevated podosterna, deeply indented on posterior face; essentially glabrous, at midbody about as wide as length of prefemora but narrowed perceptably in going posteriad; each sternum posterior to gonopods produced into low but distinct subconical projections mesad to the coxal condyles. Sides of metazona



Dioplosternus salvatrix, structural details. Fig. 1. Left paranotum of segment 9, dorsal aspect. Fig. 2. Left paranotum of 15th segment, dorsal aspect, with the longitudinal groove indicated. Fig. 3. Sternal processes of 6th segment, posterior aspect. Fig. 4. Apex of gonotelopodite, to show termination of prostatic groove.

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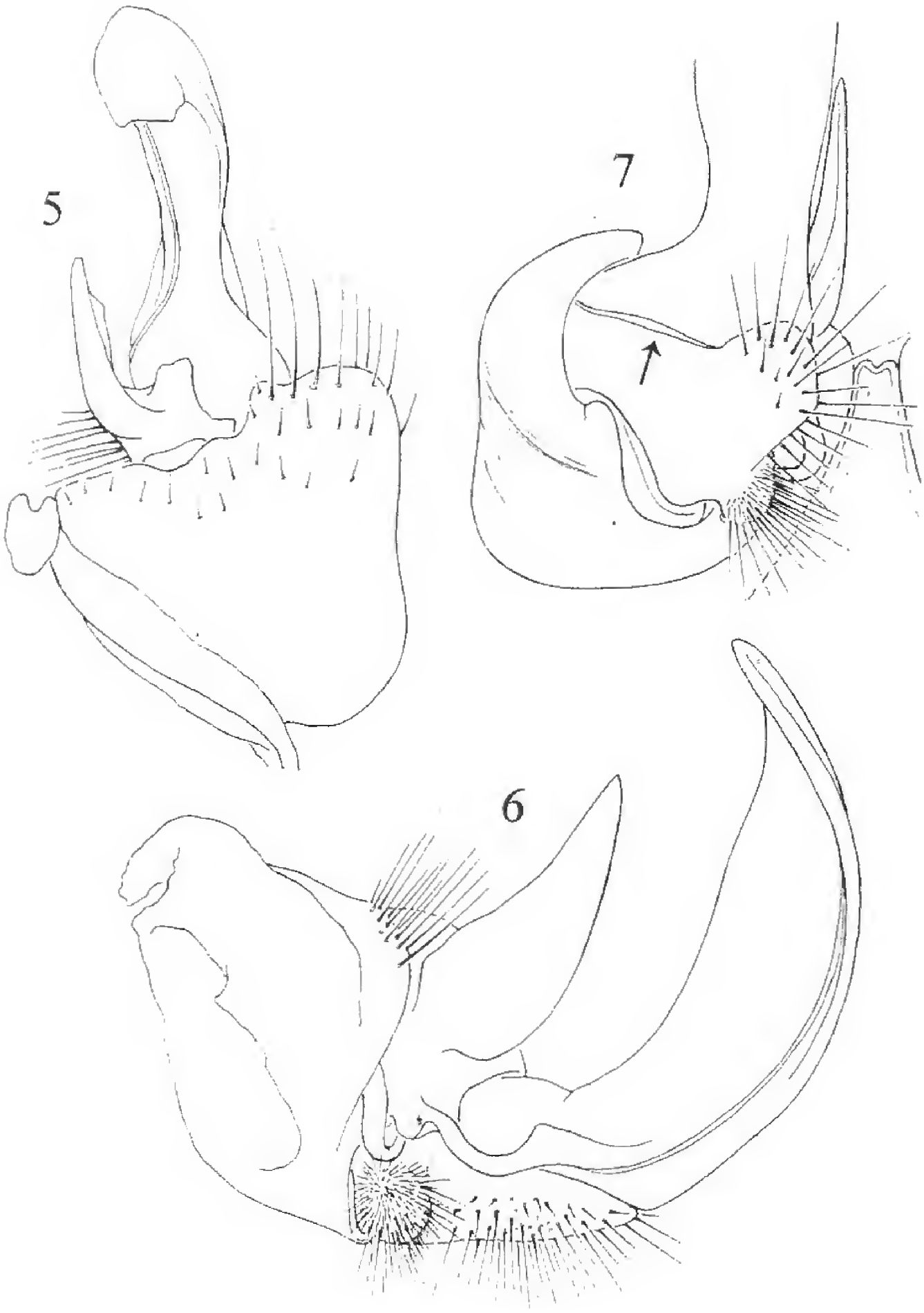

Dioplosternus salvatrix, gonopod structure. Fig. 5. Left gonopod, dorsal aspect. Fig. 6. Left gonopod, mesal aspect. Fig. 7. Left gonopod, ventral aspect, with open suture between prefemur and acropodite indicated.

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finely granular, a low thin pleurosternal carina visible on anteriormost segments. Legs moderately long, without modifications, mostly glabrous except for apical setae of the distal podomeres.

Sternum of 4th segment with low but prominent median process composed of two coalesced paramedian processes; sternum of 5th segment with low, rounded, contiguous setose knobs between anterior legpair only, sternum between posterior legs flat.

Gonopod aperture transversely oval, extremely large, occupying most of ventral side of prozonum and reducing anterior edge to a narrow strip; posterior side of aperture forming broad, flat plane sloping up between legs of 8th pair and reducing the sternum to a narrow transverse crest, this sloping surface with five or six short carinae on each side.

Gonopods large and robust, of the form shown in Figs. 5-7. Proximal end of coxosternal apodeme small and decurved; coxae subglobose, very shorton medial side, separated by sclerotized, subtriangular median sternal element. No coxal apophysis present, and no paracannular setae. Distal edge of coxa rounded and reflexed inward as in other telonychopodines. Prefemoral region not concealed on lateral side by apical extension of coxa. Telopodite relatively short and massive, prefemur with a large cuneate process bearing a small truncated projection at its base. Acropodite of very simple form, a flattened to slightly concave blade, prostatic groove visible along much of its medial edge, terminating apically with the edges of the groove slightly flared and separated. In ventral aspect, a distinct unsclerotized space between prefemur and acropodite is evident (Fig. 7, ←), possibly relict of a former movable articulartion.

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